AMENDMENTS TO THE CLAIMS

1-47. (Cancelled)

48. (Currently Amended) A synthetic gene ~~which is capable of reducing the expression of a target gene in a human cell which is transfected or transformed with the synthetic gene~~, comprising ~~a~~ multiple structural gene regions, wherein each structural gene region ~~which~~ comprises ~~multiple copies of~~ a nucleotide sequence which consists of greater than 20 consecutive nucleotides which is identical to ~~the~~ a particular nucleotide sequence of ~~the~~ a target gene ~~or a region thereof~~ in a vertebrate animal cell, wherein one of the structural gene regions is placed in the sense orientation and another of the structural gene regions is placed in the antisense orientation operably under the control of a single promoter sequence which is operable in the cell, and wherein the structural gene region placed in the sense orientation and the structural gene region placed in the antisense orientation ~~multiple copies of the nucleotide sequence~~ are arranged ~~in the structural gene region in~~ as an interrupted palindrome sequence ~~and placed~~ which is operably under the control of [[a]]the single promoter sequence ~~which is operable in the human cell~~.

49-106. (Cancelled)

107. (Currently Amended) The synthetic gene of claim 48, wherein the structural gene region placed in the sense orientation and the structural gene region placed in the antisense orientation ~~copies of the nucleotide sequence that comprise the interrupted palindrome sequence~~ are separated by a sequence of nucleotides.

108-109. (Cancelled)

110. (Currently Amended) A synthetic genetic construct, comprising a synthetic gene and a genetic sequence which provides for the maintenance and/or replication of the genetic construct in prokaryotes or eukaryotes and/or the integration of the genetic construct or a part thereof into the genome of a eukaryotic cell or organism,

wherein the synthetic gene ~~is capable of reducing the expression of a target gene in a human cell transfected or transformed with the synthetic gene, wherein the synthetic gene~~ comprises [[a]]multiple structural gene regions, wherein each structural gene region comprises ~~having multiple copies of~~ a nucleotide sequence which consists of greater than 20 consecutive nucleotides which is identical to ~~the~~ a particular nucleotide sequence of ~~the~~ a target gene ~~or a region thereof~~ in a vertebrate animal cell, wherein one of the structural gene regions is placed in the sense orientation and another of the structural gene regions is placed in the antisense orientation operably under the control of a single promoter sequence which is operable in the cell, and

wherein the structural gene region placed in the sense orientation and the structural gene region placed in the antisense orientation~~multiple copies of the nucleotide sequence~~ are arranged [[in]]as an interrupted palindrome sequence ~~and placed~~ which is operably under the control of [[a]]the single promoter sequence ~~which is operable in the human cell~~.

111. (Currently Amended) The synthetic genetic construct of claim 110, wherein the structural gene region placed in the sense orientation and the structural gene region placed in the antisense orientation~~copies of the nucleotide sequence that comprise the interrupted palindrome~~ are separated by a sequence of nucleotides.

112-113. (Cancelled)

114. (Previously Presented) The synthetic genetic construct of claim 110, wherein the genetic sequence comprises one or more origins of replication and/or selectable marker gene sequences.

115. (Previously Presented) The synthetic genetic construct of claim 110, which is encapsulated in a liposome.

116. (Previously Presented) The synthetic genetic construct of claim 110, which is in a virus particle.

117. (Previously Presented) The synthetic genetic construct of claim 116, wherein the virus particle is an attenuated virus or associated with a virus coat.

118. (Previously Presented) The synthetic genetic construct of claim 110, which is in a recombinant viral vector.

119. (Previously Presented) The synthetic genetic construct of claim 117, wherein the viral vector is a retrovirus or a lentivirus.

120. (Currently Amended) The synthetic gene of claim 48, wherein the target gene is from a viral pathogen of the ~~human~~ vertebrate animal cell.

121. (Currently Amended) The synthetic genetic construct of claim 110, wherein the target gene is from a viral pathogen of the ~~human~~ vertebrate animal cell.

122. (Previously Presented) The synthetic gene of claim 48, wherein the promoter is selected from the group consisting of an SV40 late promoter, an SV40 early promoter, an RSV-LTR promoter and a CMV IE promoter.

123. (Previously Presented) The synthetic genetic construct of claim 110, wherein the promoter is selected from the group consisting of an SV40 late promoter, an SV40 early promoter, an RSV-LTR promoter and a CMV IE promoter.

124. (Currently Amended) The synthetic gene according to claim 48, wherein the ~~region~~ nucleotide sequence of the target gene encodes an amino acid sequence.

125. (Currently Amended) The synthetic genetic construct of claim 110, wherein the ~~region~~ nucleotide sequence of the target gene encodes an amino acid sequence.

126. (Currently Amended) The synthetic gene of claim 48, wherein the ~~region~~ nucleotide sequence of the target gene does not encode an amino acid sequence.

127. (Currently Amended) The synthetic genetic construct of claim 110, wherein the ~~region~~ nucleotide sequence of the target gene does not encode an amino acid sequence.

128. (Currently Amended) The synthetic gene of claim 48, wherein the target gene is derived from the genome of a pathogen of the ~~human~~ vertebrate animal cell.

129. (Currently Amended) The synthetic genetic construct of claim 110, wherein the target gene is derived from the genome of a pathogen of the ~~human~~ vertebrate animal cell.

130. (Currently Amended) The synthetic gene of claim 48, wherein the target gene is endogenous to the genome of the ~~human~~ vertebrate animal cell.

131. (Currently Amended) The synthetic genetic construct of claim 110, wherein the target gene is endogenous to the genome of the ~~human~~ vertebrate animal cell.

132. (Previously Presented) A composition comprising the synthetic genetic construct of claim 110 and a carrier, excipient or diluent suitable for human application.

133. (Currently Amended) A ~~human~~ vertebrate animal cell in cell or tissue culture, comprising a synthetic gene which comprises [[a]]multiple structural gene regions, wherein each structural gene region ~~which~~ comprises ~~multiple copies of~~ a nucleotide sequence which consists of greater than 20 consecutive nucleotides which is identical to ~~the~~ a particular nucleotide sequence of a target gene in the cell ~~or a region thereof~~, wherein one of the structural gene

regions is placed in the sense orientation and another of the structural gene regions is placed in the antisense orientation operably under the control of a single promoter sequence which is operable in the cell, and

wherein the structural gene region placed in the sense orientation and the structural gene region placed in the antisense orientation~~multiple copies of the nucleotide sequence~~ are arranged in the structural region in an interrupted palindrome sequence ~~and placed~~which is operably under the control of [[a]]the single promoter sequence ~~which is operable in the human cell~~.

134. (Currently Amended) The ~~human~~ vertebrate animal cell of claim 133, wherein the structural gene region is transcribed in the ~~human~~ cell.

135. (Currently Amended) The ~~human~~ vertebrate animal cell of claim 133, wherein the cell has a reduced level of expression of the target gene.

136. (Currently Amended) The ~~human~~ vertebrate animal cell of claim 133, wherein the structural gene region placed in the sense orientation and the structural gene region placed in the antisense orientation~~copies of the nucleotide sequence that comprise the interrupted palindrome~~ are separated by a sequence of nucleotides.

137. (Cancelled)

138. (Currently Amended) The ~~human~~ vertebrate animal cell of claim 136, wherein the sequence of nucleotides separating the structural gene region placed in the sense orientation and the structural gene region placed in the antisense orientation~~copies of the nucleotide sequence~~ is 10-50 nucleotides in length, 50-100 nucleotides in length, or 100-500 nucleotides in length.

139. (Withdrawn; Currently Amended) A process of modifying a ~~human~~ vertebrate animal cell in cell or tissue culture, comprising the step of introducing the synthetic gene of claim 48 into the cell.

140. (Withdrawn; Currently Amended) A process of modifying a ~~human~~ vertebrate animal cell in cell or tissue culture comprising the step of introducing the genetic construct of claim 110 into ~~said~~the ~~human~~ cell.

141-144. (Cancelled)

145. (Withdrawn; Currently Amended) A process of modifying a ~~human~~ vertebrate animal cell, comprising contacting the ~~human~~ cell with the composition of claim 132.

146. (New) The synthetic gene of claim 48, wherein the cell is a human cell.

147. (New) The synthetic genetic construct of claim 110, wherein the cell is a human cell.

148. (New) The cell of claim 133, which is a human cell.

149. (New) The cell of claim 133, which is an embryonic stem cell, cultured skin fibroblast, neuronal cell, somatic cell, hematopoietic stem cell or T-cell.

150. (New) A process for selecting an appropriate nucleotide sequence for repressing, delaying or otherwise reducing expression of a target gene in a cell, comprising the steps of obtaining the synthetic gene of claim 48, introducing the synthetic gene into the cell, and assaying the cell for efficacy of the synthetic gene in repressing, delaying or otherwise reducing target gene expression, thereby selecting an appropriate nucleotide sequence for repressing, delaying or otherwise reducing expression of a target gene in the cell.

151. (New) The process of claim 150, wherein the synthetic gene is comprised in a set of diverse synthetic genes each according to claim 48, wherein each member of the set is

contained within a plasmid, cosmid, bacteriophage or virus vector molecule which is suitable for maintenance and/or replication in a cellular host.

152. (New) A process for identifying the function of a target gene in specifying a phenotype in a cell, comprising the steps of obtaining the synthetic gene of claim 48, introducing the synthetic gene into the cell, and assaying the cell for a phenotype, thereby identifying the function of a target gene in specifying a phenotype in the cell.